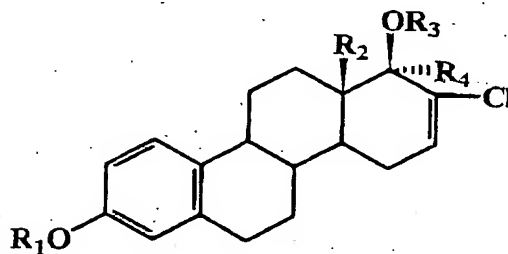


## Claims

1. Use of ER $\beta$ -selective ligands for production of medicaments for regulating fertility with or without additional use of follicular sex steroids.
2. Use of ER $\beta$ -selective agonists according to claim 1 for treatment of female infertility.
3. Use according to claim 2 to support IVF (in vitro fertilisation) in connection with in vivo treatment.
4. Use according to claim 2 for treatment of females which are suffering from ovarian infertility (PCO syndrome).
5. Use for treatment of ovarian failure associated with aging.
6. Use of ER $\beta$ -selective antagonists according to claim 1 for ovarian contraception.
7. Use according to claim 6 for inhibiting folliculogenesis.
8. Use according to claim 6 for inhibiting ovulation.
9. Use according to claim 6 to inhibit preimplantational development of ovulated oocytes.
10. Use of ER $\beta$ -selective ligands according to claim 1 for production of medicaments for regulating fertility without additional use of follicular sex steroids.
11. Use of ER $\beta$ -selective ligands according to claim 10 for production of medicaments for regulating fertility without additional use of a progestin.
12. 17-Chloro-D-homosteroids of general formula I



(I)

17-chloro-17 $\alpha$ -methoxy-17 $\alpha$ -(trifluoromethyl)-17 $\alpha$ -homoestra-1,3,5(10),16-tetraene-3-ol

[illegible]

17-chloro-(17 $\alpha$ )-21-(4'-methylsulfonylphenyl)-17a,18 $\alpha$ -dihomogona-1,3,5(10),16-tetraen-20-yne-3,17 $\beta$ -diol

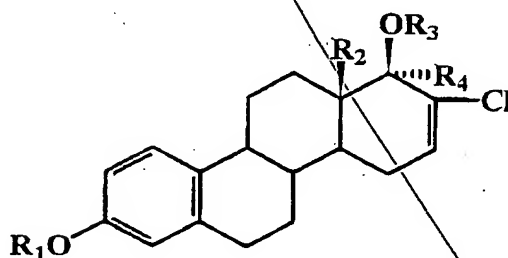
17-chloro-(17 $\alpha$ )-21-(phenyl)-13 $\beta$ -methyl-17a-homogona-1,3,5(10),16-tetraen-20-yne-3,17 $\beta$ -diol

17-chloro-(17 $\alpha$ )-21-(4'-cyanophenyl)-13 $\beta$ -methyl-17a-homogona-1,3,5(10),16-tetraen-20-yne-3,17 $\beta$ -diol

17-chloro-(17 $\alpha$ )-21-(4'-acetylamino-phenyl)-13 $\beta$ -methyl-17a-homogona-1,3,5(10),16-tetraen-20-yne-3,17 $\beta$ -diol *and*

17-chloro-(17 $\alpha$ )-21-(4'-hydroxyphenyl)-13 $\beta$ -methyl-17a-homogona-1,3,5(10),16-tetraen-20-yne-3,17 $\beta$ -diol.

14. Process for the production of 17-chloro-D-homosteroids of the general formula I according to claim 12

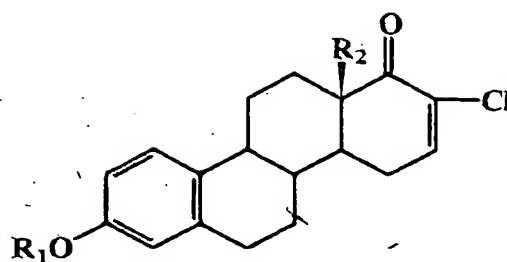


(I)

characterized in that a 17-chloro-1,3,5(10),16-tetraene-17-one of general formula II

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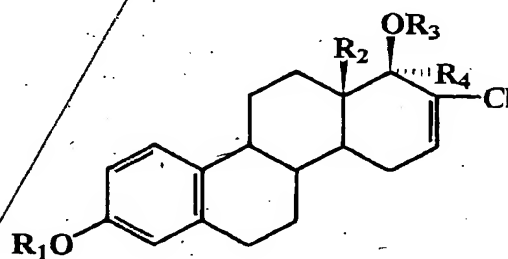
(II)

in which

$R_1$  means a hydrogen atom, a  $C_{1-6}$  alkyl radical, a  $C_{1-6}$  alkanoyl radical or benzoyl radical,

$R_2$  means a  $C_{1-6}$  alkyl group,

is converted with a magnesium-organic reagent of general formula  $BrMg$  alkyl,  $BrMg$  alkenyl or  $BrMg$  alkynyl or with acetylene or an alkyl- or aryl-substituted acetylene in the presence of bases such as *tert*-BuOK or with a lithium-organic compound such as  $LiC_2F_5$  or with a silicon-organic compound such as trifluoromethyl trimethylsilane into a  $17\alpha$ -substituted compound of general formula III,



(III)

in which  $R_1$  is a hydrogen atom, a  $C_{1-6}$  alkyl radical or  $C_{1-6}$  alkanoyl radical or benzoyl radical, and  $R_2$  is a  $C_{1-6}$  alkyl group,  $R_3$  is a hydrogen atom, a metal atom or a silyl group, and  $R_4$  is a hydrogen atom, a  $C_{1-6}$  alkyl group, a  $C_nF_{2n+1}$  group, in which  $n = 1, 2$  or  $3$ , or is a  $C\equiv CR_5$  group, in which  $R_5$  is a hydrogen atom, a  $C_{1-6}$  alkyl radical or an unsubstituted or substituted phenyl radical,

whereby in the case of  $R_5 =$  hydrogen, the free  $17\alpha$ -ethynyl compound of general formula III is further modified by a SONAGASHIRA reaction to form compounds

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